

## PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



REC'D 16 MAR 2004

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Applicant's or agent's file reference A2-254PCT	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US 03/17045	International filing date (day/month/year) 30.05.2003	Priority date (day/month/year) 31.05.2002
International Patent Classification (IPC) or both national classification and IPC H01R4/24		
Applicant MOLEX INCORPORATED et al.		

- This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.  
  
☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  
  
 These annexes consist of a total of 2 sheets.

- This report contains indications relating to the following items:
  - ☒ Basis of the opinion
  - ☐ Priority
  - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
  - ☐ Lack of unity of invention
  - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
  - ☐ Certain documents cited
  - ☐ Certain defects in the international application
  - ☐ Certain observations on the international application

Date of submission of the demand  30.12.2003	Date of completion of this report  15.03.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Arenz, R  Telephone No. +49 89 2399-8177  

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. **PCT/US 03/17045**

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-12 as originally filed

**Claims, Numbers**

1-7 as amended (together with any statement) under Art. 19 PCT

**Drawings, Sheets**

1/21-21/21 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).
- (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	1-7
	No: Claims	
Inventive step (IS)	Yes: Claims	1-7
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-7
	No: Claims	

**2. Citations and explanations**

**see separate sheet**

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**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Reference is made to the following documents:

D1: WO-A-9966598

D2: DE-A-19700600

D3: US-A-5667402

D4: EP-A-0966066

2. The subject-matter of claim 1 is new and involves an inventive step in the sense of Articles 33(2)(3) PCT.

a. Document D1, which is considered to represent the most relevant state of the art, discloses (cf. fig. 6,7) an IDT connector.

b. The subject-matter of claim 1 differs this IDT connector in that the "...cover housing has wire normal fixing means for fixing said wires in a normal location within said guide holes with respect to a connection direction of said wires..."

c. The problem to be solved by the present invention may therefore be regarded as fix the wires in said guide holes prior to the main fixing by the wire holder.

d. The solution proposed in claim 1 of the present application can be considered as involving an inventive step (Article 33(3) PCT) for the following reason. Normal position fixing means are known in the prior art ( See D2 and D3) but these known means are can not be combined with the IDT Connector known from D1 without further modification being necessary.

3. The claims 2-6 are dependent on claim 1 and as such also meet the requirements Articles 33(2) and 33(3) PCT.

4. Claim 7 relates to a wire connection method which is new and involves an inventive step for the reasons as given above.

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5. The invention as claimed in claims 1-7 is industrially applicable (Article 33(4) PCT).

**BEST AVAILABLE COPY****CLAIMS:**

1. An IDT connector (1), comprising:
  - a base housing (3) having a plural of insulation displacement terminal (13) to which a plurality of wires (21) applied with outer insulation is press-fitted;
  - a cover housing (5) which is mounted to the base housing (3), the cover housing (5) having a plural of guide holes (29) into which the electric wires (21) are inserted;
  - a wire holder (31) for retaining the wires (21) to be inserted into the guide holes (29), wherein said cover housing (5) has wire normal-position fixing means (30) for fixing said wires (21) in a normal location within said guide holes (29) with respect to a connection direction of said wires (21); characterized in that:
    - connection of said wires (21) to said connector (1) is performed by displacing said wires (21), which are fixed in their normal location within said guide holes (29) by said wire normal-position fixing means (30), into IDT contact edges (17a) of the insulation displacement terminals (13) while retaining said wires (21) in the wire holder (31).
2. An IDT connector according to claim 1, wherein the said wire normal-position fixing means (30) includes a tapered bore (30) disposed on inner surfaces of said guide holes (29), diameters of which gradually decrease relative to diameter of said wires (21).
3. An IDT connector according to claim 1, wherein when mounting said wires (21) in a state where said wire holder (31) is being attached on said cover housing (5), said wire holder (31) is capable of being displaced to a position where said wire holder (31) does not interfere with said wires (21) to be inserted in said guide holes (29).
4. An IDT connector according to claim 3, wherein said wire holder (31) is guided by displacement guiding portions (32,38) so that said wires (21) held thereby are displaced in a parallel fashion.
5. An IDT connector according to claim 1, wherein a protective guide plate (62) for protecting the electric wires (21) is provided in an area where the wire holder (31) that is

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descended crosses the guide holes (29), and the electric wires (21) are covered with the protective guide plate (62).

6. An IDT connector according to claim 1, wherein a plurality of said insulation displacement terminals (13) are provided in said base housing (3) such that adjacent terminals (13) are staggered relative to each other in a zigzag pattern with respect to a connection direction of said wires (21).
7. A wire connection method for an IDT connector (1) in which wires (21) applied with outer insulation are connected to the connector (1), the method comprising:
  - a first step of inserting the wires (21) into guide holes (29) inside a cover housing (5) and temporarily locking said wires (21) by wire normal-position fixing means (30);
  - a second step of retaining said wires (21) by a wire holder (31) provided to the cover housing (5); and,
  - a third step of pressing the wire holder (31) and cover housing (5) toward a base housing (3) by applying pressure thereon from the outside to bring said wires (21) into insulation displacement contact, thereby bringing inner conductors (21a) of said wires (21) and the insulation displacement terminal (13) into contact with each other.